EXHIBIT 1

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   SAN FRANCISCO DIVISION

4

5   _____

6   ORACLE AMERICA, INC.,   )

7   Plaintiff,   )

8   vs.   ) No. CV 10-03561 WHA

9   GOOGLE, INC.,   )

10   Defendant.   )

11   _____)

12

13   HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

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15

16   Videotaped Deposition of JOSHUA BLOCH,

17   at 333 Twin Dolphin Drive, Suite 400,

18   Redwood Shores, California, commencing

19   at 9:34 a.m., Friday, July 8, 2011,

20   before Leslie Rockwood, RPR, CSR No. 3462.

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22

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24

25   PAGES 1 - 246

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1   were big programs written in Java. Java was one of the

2   three main languages we used.

3   Q. And when you say three main languages were

4   used, again, you're referring to use as a development

5   language for Google's services?   10:22:31

6   A. Precisely.

7   Q. Now, when you started at Google, what was

8   your title?

9   A. There are many different kinds of titles at

10   Google.   10:23:02

11   Q. What was on your business card?

12   A. Software engineer.

13   Q. And then did you get an additional business

14   card titles or different business card titles as time

15   went on?   10:23:12

16   A. Yes.

17   Q. What was that progression?

18   A. I had one other title on a business card, and

19   that was chief Java architect.

20   Q. And you used the past tense for that. Is   10:23:21

21   that still true?

22   A. I'm out of business cards.

23   Q. I'm sorry?

24   A. I'm out of business cards.

25   Q. Did you -- did that title change?   10:23:33

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1   A. We'll know when I order my next set of

2 business cards. It's pretty much up to me.

3   Q. And so what is your -- you are still employed

4 by Google as of today?

5   A. I am.   10:23:44

6   Q. And what titles do you have at Google?

7   A. I am a -- I believe they call it senior staff

8 engineer. I don't -- I don't -- or senior staff software

9 engineer, and I use the courtesy title of chief Java

10 architect occasionally.   10:24:16

11   Q. Then you continue to serve as Google's

12 representative at the JCP; correct?

13   A. Yes.

14   Q. And then -- and you have a role at the Open

15 Source Programs Office up through today; is that correct? 10:24:28

16   A. Yes.

17   Q. And at some point you were a quote, member,

18 unquote of the Android team?

19   A. That is correct.

20   Q. And so from 2008 to the present, have you had   10:24:38

21 any other roles of that level of definition?

22   MR. PURCELL: Object to the form.

23   MS. MC GLONE: Object to the form.

24   THE WITNESS: Object. I can't object.

25   What do you mean by "that level of   10:24:54

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 1    definition"?   The point is that serving on the JCP EC is

 2    not the same thing as, you know -- in one case you're

 3    talking about the manager to whom I report; right?   So

 4    I -- tell me what question you actually want me to

 5    answer.                                                 10:25:13

 6            Q.   BY MR. JACOBS:   Fair enough.

 7                 From 2008 to the present, what role at Google

 8    has taken the majority of your time?

 9            A.   From the beginning of 2008 to the present?

10    I -- I do not know.   That's a very hard question to.     10:25:38

11    Answer without an accounting for all my hours, I simply

12    can't answer that question.

13                 THE VIDEOGRAPHER:   Careful.

14                 THE WITNESS:   Sorry about that.   Did you lose

15    a cable you need?                                         10:25:51

16                 THE VIDEOGRAPHER:   No, no.

17                 THE WITNESS:   All right.

18            Q.   BY MR. JACOBS:   When you joined the Android

19    team, did you give up some duties?

20            A.   Yes.                                         10:26:00

21            Q.   What did you give up?

22            A.   Well, I was no longer working on the team

23    that had been decommissioned, for lack of a better word.

24    That is the Java infrastructure team.   So I needed to

25    find a new place to work, and that was what I found.      10:26:16
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                                                               Page 40

1   develop will be happier, they'll be more productive, and

2   the API -- you know, good APIs are good for the companies

3   that wrote the APIs, they're good for the companies that

4   use the APIs; correspondingly, bad ones are bad for you.

5   And this talk told you a bunch of what it   12:00:03

6   takes to write good APIs. But it is a craft. It's not a

7   science. And so I kind of tell people go forth and

8   practice the craft proudly. Oh, and don't expect to

9   achieve perfection because it's pretty much impossible,

10   you know, by its nature. You don't find out until years   12:00:23

11   later if you did it right.

12   Q. As you reviewed the presentation today, did

13   you see anything in it that you would change if you were

14   to give this presentation now?

15   MS. MC GLONE: Object to the form of the   12:00:34

16   question.

17   MR. PURCELL: Join.

18   THE WITNESS: That said, yes, because I've

19   given it many times since 2005 and I have changed things.

20   You know, I've come up with better examples for some of   12:00:43

21   the points. I've removed slides that I felt didn't

22   necessarily pay for themselves. And, you know, so there

23   are certainly small changes that I would make. But

24   generally speaking, the talk -- not generally speaking.

25   The talk has received very favorable reviews every time   12:01:04

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1   I've given it, you know, even in its earliest form.

2   Q. BY MR. JACOBS: All right. Perhaps I should

3   have asked a slightly more precise question. Is there

4   anything in the slides that we've discussed that you

5   regard now as inaccurate?   12:01:18

6   A. My gosh.

7   Q. The ones we've discussed.

8   A. Almost certainly, but nothing that comes to

9   mind immediately. I could look at all of them and read

10 all the bullets and, you know, see. If there's any   12:01:29

11 particular that you wonder whether I find inaccurate,

12 feel free to can ask me.

13   Q. All right. I'm going to ask you about the

14 conclusion slide.

15   A. Ah, all right. That's right where we were.   12:01:44

16   Well, I still feel that it's noble and

17 rewarding. When I say rewarding, you know, I'm not

18 talking about remunerative. I'm saying in a deeper,

19 philosophical sense, I find it very rewarding to design

20 great APIs and have people come to me years later and   12:01:56

21 say, wow, you know, the collections framework changed my

22 life. Basically there's no higher compliment that you

23 can pay to an API designer.

24   I do believe that well-designed APIs improve

25 the lot of programmers, end-users, and companies -- you   12:02:11

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 1    know, I don't know why I picked on companies.  I think it

 2    would be better to say organizations.  One of the things

 3    that happened sort of between then and now is that

 4    non-company organizations have become more important in

 5    software due to the Open Source movement.  So that's not      12:02:27

 6    something wrong, but it's an omission.

 7              Certainly this talk did cover some of the

 8    heuristics of the craft.  Certainly I don't want you have

 9    to adhere to them slavishly, but I do want you to think

10    about it each time you violate one.  I still believe that    12:02:45

11    API design is tough.  I still believe that it's not a

12    solitary activity.  You have to bounce your APIs off of

13    other people to find out if they really will achieve what

14    you want them to achieve, and I certainly believe that

15    accepting trivial case perfection is unachievable.  So       12:02:58

16    no, I still believe these conclusions.

17         Q.   Now, you refer to the feedback you've gotten

18    on the talk.

19         A.   Uh-huh.

20         Q.   Favorable feedback.                                12:03:16

21         A.   Uh-huh.

22         Q.   Any critical feedback?

23         A.   You can't please all the people all the time,

24    but I can't actually remember any critical feedback.  If

25    you want to see what kind of feedback the talk got, I        12:03:26
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1   Q.   And then you go down to number 5, mobile. Do

2 you see there are 40 developers in mobile in that entry?

3   A.   I see the number 40, but it's unclear to me

4 that it refers to -- oh, yes, it says with associated

5 number of developers. Yes.   12:40:02

6   Q.   And what was your understanding of what

7 mobile was referring to?

8   MS. MC GLONE: Object to the form of the

9 question.

10   MR. PURCELL: Join.   12:40:07

11   THE WITNESS: I had no understanding. Don't

12 even know if I read that line.

13   Q.   BY MR. JACOBS: Who was Pablo Bellver in

14 relation to you?

15   A.   Pablo Bellver was a member of my team. He   12:40:16

16 wrote various pieces of the Java infrastructure.

17   Q.   So he was part of the Java engineering

18 infrastructure group?

19   A.   Java infrastructure group, yes.

20   Q.   Sorry. Pablo Bellver was part of the Java   12:40:42

21 infrastructure engineering group?

22   A.   Did we have an engineering in our title? I

23 don't think we did. I think we were just the Java

24 infrastructure group.

25   Q.   He was part of that group?   12:40:54

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1              A.   He was.

2                   MR. JACOBS:  Would you like to break for

3        lunch?

4                   MR. PURCELL:  Sure.

5                   MS. MC GLONE:  Sounds good.              12:41:05

6                   THE VIDEOGRAPHER:  The time is now

7        12:41 p.m., and we're going off the record.

8                   (Lunch recess.)

9                   THE VIDEOGRAPHER:  The time is now 1:38 p.m.

10       We are back on the record.                         13:38:41

11                  MR. JACOBS:  Next.

12                  (Exhibit 200 was marked for identification.)

13             Q.   BY MR. JACOBS:  Exhibit 200 is an email

14       string which ends with an email from Ed Cobb dated

15       August 14th, 2007.                                 13:39:13

16                  Do you see that?

17             A.   I do.

18             Q.   Take a minute to read this email string

19       regarding Sun OpenJDK derivative TCK license conference

20       call update re discussions with Sun on Apache Sun    13:39:25

21       dispute.

22                  Okay?

23             A.   Pretty much.

24                  One thing that's missing from here is Ed

25       Cobb's email address.  Could you provide that, or his  13:42:59
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 1   affiliation at least?

 2          Q.  I'll try and do that.  That was actually my

 3   first question to you is:  Who is Ed Cobb?

 4          A.  Well, some guy who was on the JCP at the

 5   time, but I forget who he represented.                    13:43:12

 6          Q.  So this email string, Sun OpenJDK derivative

 7   TCK license, went to Ed Cobb's email dated August 14th,

 8   2007.  That was sent to you because you were on the JCP;

 9   is that correct?

10          A.  Yes.  In fact, it was sent to probably --     13:43:26

11   that is an interesting question, actually.  I cannot say

12   with certainty, and the more I look at it, the more I

13   think that is not why it was sent to me.

14          Q.  Why do you think it was sent to you?

15          MS. MC GLONE:  Object to the form of the          13:43:53

16   question.

17          THE WITNESS:  I believe it was sent to me in

18   connection with -- let me look at the date before I

19   answer this.  I cannot say with certainty, but I could

20   speculate.                                                13:44:22

21          Q.  BY MR. JACOBS:  Do you see that it starts

22   with an email from your collaborator, Doug Lea, at the

23   bottom?

24          A.  Uh-huh.

25          Q.  And he reports on the news that has -- that    13:44:29
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1   then prompts this email string.

2   Do you see that?

3   A.   Uh-huh.

4   Q.   And then there is an exchange among the --

5   some of the participants on this email address list about   13:44:40

6   the Sun announcement.

7   You saw that?

8   A.   Uh-huh.

9   Q.   You saw that exchange.   "Yes"?

10   A.   Yes.   13:44:49

11   Q.   So what was your understanding in August of

12   2007 of the dispute that is the subject of this email

13   string?

14   MS. MC GLONE: Object to the form of the

15   question.   13:45:03

16   MR. PURCELL: I'll join.

17   THE WITNESS: There was a longstanding

18   dispute between Apache and Sun concerning Sun's promise

19   to grant Apache a license to implement Java SE as

20   consistent with the JSPA.   13:45:30

21   Q.   BY MR. JACOBS: Let's break that down.   Who

22   is Apache?

23   A.   Apache is the Apache Software Foundation, and

24   they were involved in producing, and in fact, I think

25   still are, involved in producing an Open Source   13:45:54

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1   implementation of Java SE and were promised that they

2   would get a TCK license from Sun to do this. But Sun had

3   not made good on that promise at the time this letter was

4   written, and that was the nature of the dispute.

5   Q.   When you say they had not made good on the   13:46:18

6   promise, what do you mean?

7   A.   I mean that no license was forthcoming. No

8   license had been granted.

9   Q.   And the -- there's a reference in this email

10   string to a field-of-use issue. Do you recall what the   13:46:34

11   field-of-use issue was?

12   A.   Yes. Field of use is a license that

13   restricts the field of use in which a work may be used,

14   basically grants the license only so long as the work is

15   not used in some particular area. And this was not   13:47:03

16   acceptable to Apache, and according to substantially

17   every member of the JCP, notably including Oracle and

18   Google, not consistent with the JSPA.

19   Q.   And the JSPA, what is that?

20   A.   The JSPA is the set of agreements that   13:47:30

21   constitute the JCP. JCP isn't really an organization

22   per se, but was an agreement called the JSPA that its

23   members signed.

24   Q.   And so the nature of the dispute that's

25   described in this email string from August 14th, 2007 is   13:47:50

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1   that Sun's TCK offer to Apache has this field-of-use

2   limitation in it; correct?

3   A.   Near as I can tell, that may be an

4   oversimplification. According to Doug, an OpenJDK TCK

5   license was made available, but that license, since it   13:48:22

6   says OpenJDK, presumably has nothing to do with Apache.

7   So there's not enough context for me to figure it all out

8   from this email.

9   Q.   So OpenJDK, in the last email, "Wayne, as I'm

10 sure you know, the JSPA has no standing when it comes to   13:48:38

11 OpenJDK, which is Sun's own OSS" -- Open Source software;

12 right?

13   A.   (Witness nods head.)

14   Q.   "Which is Sun's own OSS playground. IMO,"

15 that's "in my opinion"; right?   13:48:49

16   A.   Yes.

17   Q.   "The whole reason for the GPL is to protect

18 Sun's licensing business."

19   Now, you understood that what was being

20 referred to was the application of the GPL to OpenJDK;   13:48:58

21 correct?

22   A.   Probably not. I don't even know if I even

23 read this paragraph.

24   Q.   Probably not, you didn't understand it at the

25 time or you don't understand it?   13:49:10

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 1                 MS. MC GLONE:  Object to the form of the

 2      question.

 3                 MR. PURCELL:  Join.

 4                 THE WITNESS:  I can't read their mind, but

 5      there appears to be something there.              15:10:27

 6           Q.  BY MR. JACOBS:  Well, somebody wrote this

 7      paragraph.  You can't be sure whether it was you or Bob;

 8      right?

 9           A.  Uh-huh.

10           Q.  When you saw it in this email exchange, did    15:10:35

11      you go to yourself, no, no, no, that's not what Sun is

12      thinking at all?

13                 MS. MC GLONE:  Object to the form of the

14      question.

15                 THE WITNESS:  No, I did not do that.        15:10:43

16           Q.  BY MR. JACOBS:  And the -- again, the Pablo

17      whose writing back to you is?

18           A.  Bellver.

19                 (Exhibit 207 was marked for identification.)

20           Q.  BY MR. JACOBS:  207 is an email string ending   15:11:59

21      with an email from you dated December 16, 2008, to Andrew

22      Rubin re meeting.

23                 Do you see that?

24           A.  Yes.

25           Q.  I want to ask you a couple of questions about   15:12:18
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1   this email string between you and others under the re

2   line meeting. Steve Horowitz, was Steve on the Android

3   team?

4   A. Presumably so. I don't remember him.

5   Q. And of course, Andy Rubin was leading the   15:12:47

6   Android team; correct?

7   A. Yes.

8   Q. And you write to Steve: "PS, I am currently

9   working on a drop-in replacement for Harmony's sort

10   function, which has demonstrated a huge up to 20X   15:13:03

11   performance improvements on G1 hardware. This will be my

12   first contribution to Android."

13   Do you see that?

14   A. I do.

15   Q. What is the -- what's the name of that   15:13:15

16   drop-in replacement?

17   A. TimSort.

18   Q. And what was the project that you were doing

19   that led to your developing this TimSort drop-in

20   replacement?   15:13:35

21   A. I undertook it personally a couple years

22   earlier after a conversation with Guido van Rossum.

23   TimSort is Python's system sort. He told me about it.

24   He said it's really fast. I said, oh, wow, I wonder if

25   we can make it work in the Java programming language and   15:13:56

                                                        Page 162

1   contribute it to all the platforms.

2   Q. And so when you say you undertook it

3   personally, in what way did it fit into your job duties?

4   A. My job duties are moderately flexible, and if

5   I see something that, you know, I think could be   15:14:10

6   beneficial to Google and to the broader Java ecosystem,

7   and my manager doesn't object, I do it.

8   Q. What was G1 hardware?

9   A. That was the earliest Android hardware. I

10   had tried it out at about that time. That is towards the 15:14:33

11   end of 2008 on Android hardware and found that it

12   provided a good speed boost.

13   Q. And when you said a 20X performance

14   improvement, how were you measuring that performance

15   improvement?   15:14:51

16   A. Probably using a small micro-benchmarking

17   framework that I wrote for myself many years ago, and I

18   tend to use for micro-benchmarks.

19   Q. When you say "micro-benchmark," what do you

20   mean?   15:15:08

21   A. I mean a small benchmark of an individual

22   functional library as opposed to a benchmark of an entire

23   system.

24   Q. So when you were referring to 20X performance

25   improvement, you were referring to 20X performance of the 15:15:17

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 1    particular functionality you were working on?

 2           A.   Yeah, sorting an array of a certain size.

 3    You know, I don't know whether it was a -- probably was

 4    not a -- sorry.  Just sorting an array of elements.

 5    That's good enough.                              15:15:34

 6           Q.   What -- and did you have in your mind what

 7    implication that would have for ultimate performance

 8    improvement in an end-user context?

 9           A.   No.

10           Q.   Would it be trivial?                 15:15:45

11           A.   It depends on the application.

12           Q.   What kind of application would matter?

13           A.   You know, if there were an application that

14    sorted a lot of data, it could make it significantly

15    faster.                                          15:15:57

16           Q.   And by "significantly faster," you mean

17    something that would bear on the -- that would bear on

18    the user experience in running that application?

19           A.   It's not beyond the realm of reason.

20           Q.   That sounds very cautious, not beyond --   15:16:07

21           A.   You have to be very cautious when you're

22    talking about micro-benchmarking.  You're testing one

23    small function, and it is often the case that you make

24    one small function way faster, and then you try it in the

25    context of a larger application, but it turns out it was   15:16:22
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1   function and you invoke it at the beginning of every

2   other function. So any function that takes an array and

3   a start position and an end position, you know, you want

4   to check that the start and end are in balance. So

5   you'll do that by calling a function, a method to   15:31:04

6   validate the arguments, and that would appear to be the

7   purpose of this RangeCheck function.

8   Q.   The RangeCheck function that we're looking at

9   on page Google 551599 did not come from Tim Peters' list

10 sort for Python; correct?   15:31:20

11   A.   C does not have exceptions. So it most

12 certainly did not.

13   Q.   And the RangeCheck at 551599 in TimSort is

14 the same code as the RangeCheck for comparable TimSort at

15 551226; correct?   15:31:47

16   A.   Probably so because the two files are copies

17 of one another, and it's a judgment call under those

18 circumstances whether you want to copy this identical

19 code. Assume -- yeah, it's identical. So, you know,

20 your choices are to either copy the code or to make the   15:32:02

21 function package private instead of private and call it

22 from one file to the other. Lesser of two evils.

23   And in this case, given that one file is a

24 copy of the other, copy the whole thing.

25   (Exhibit 210 was marked for identification.)   15:33:09

                                                                    Page 173

1   Q.   BY MR. JACOBS: Exhibit 210 is a printout of

2   arrays.java, copyright 2004, Sun Microsystems.

3   Do you see that?

4   A.   I do.

5   Q.   And you are listed there as an author along   15:33:24

6   with Neal Gafter.

7   Do you see that?

8   A.   I do.

9   Q.   And so you had worked actually with Neal at

10   Sun and then later together at Google; correct?   15:33:33

11   A.   Correct.   And for the record, Neal did not

12   write this file.   He generified it.   I wrote it.

13   Q.   And by "generified," what do you mean?

14   A.   When generics were added to the platform, he

15   added the generic typed parameters to the method   15:34:07

16   declarations that allow this to be used with the type

17   safety of generics.

18   Q.   Did you write it around 2004?

19   A.   No.

20   Q.   So you see it says there's a version 1.59   15:34:27

21   around 2004.   What's the version history of your work?

22   A.   This was part of the original collections

23   framework, and the bulk of it was written in 1997.

24   Q.   And does it have a -- it does not have

25   TimSort?   15:34:42

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1   A.   Now it does.   Well, it -- it -- yeah, as of

2   today or yesterday, Oracle did a release candidate for

3   1.7, and that caused TimSort.

4   Q.   What do you mean "a release candidate"?

5   A.   Release candidate is beyond a beta release.   15:35:06

6   It is what will become the release if no more bugs are

7   discovered in it.

8   Q.   And by 1.7 you mean Java SE?

9   A.   Seven.

10   Q.   So if you turn to the 24th page of this   15:35:31

11   document to --

12   A.   Is this document page numbered?

13   Q.   It is not.   And you look at -- and look for

14   RangeCheck.

15   A.   I'm not finding it.   15:36:37

16   Q.   It is --

17   A.   Can you tell me something else on the same

18   page?

19   Q.   Yes.   Searching.

20   A.   Oh, you've got it?   Excellent.   15:36:55

21   Q.   So in this Sun code, arrays.java, you wrote

22   the RangeCheck function; correct?

23   A.   Yes.

24   Q.   And you wrote it while you were employed by

25   Sun?   15:37:17

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1   did the integration to simply be able to drop the TimSort

2   function in and have the calls to RangeCheck simply match

3   up.

4   So I may have copied that signature basically

5   as a favor to the people who were integrating it into   15:44:00

6   OpenJDK and then rewritten the comment and the body.   I

7   don't know.   I'm speculating.

8   Q.   BY MR. JACOBS: So that's actually what I'm

9   asking you.   What is -- you are sitting here and

10   inferring from the similarity of the two that that may   15:44:17

11   have happened?

12   A.   Yes.

13   Q.   My question to you is: What happened?   What

14   did you do?   And if the answer is you have no

15   recollection, then that's the best testimony that that   15:44:24

16   would be the answer to that question.

17   A.   Yes.

18   MR. PURCELL: Object to the form.

19   You can answer.

20   THE WITNESS: Excuse me?   15:44:32

21   MR. PURCELL: You can answer.

22   THE WITNESS: All right.

23   So, you know, I do not recall precisely what

24   I did, but just knowing my habits as a software engineer,

25   I do believe that I would have gone and looked at the   15:44:42

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1   signature of this function.

2   Q. BY MR. JACOBS: Why this -- well, but as you

3   sit here today, you do not have a recollection of doing

4   so; is that correct?

5   MR. PURCELL: Object to the form.   15:45:04

6   THE WITNESS: I do not.

7   Q. BY MR. JACOBS: Do you have a recollection of

8   accessing Sun code while you were working on TimSort?

9   A. I don't have a recollection, but I'm

10   perfectly willing to believe that I did. You know, I   15:45:21

11   think the similarity of the signature, the fact that, you

12   know, the three arguments are in the same order and have

13   the same name, you know, is a strong indication that it

14   is likely that I did.

15   Q. And were there other cases in which you were   15:45:37

16   working on signature similarity where the similarity of

17   the signature was important as -- in your work on

18   TimSort?

19   A. None that I'm aware of, and it seems unlikely

20   that there are any.   15:45:58

21   Q. So why would RangeCheck be the one that

22   requires the signature to be similar?

23   A. Because it is the only piece of functionality

24   that TimSort shares with the remainder of arrays,

25   java.util.arrays. TimSort is a 700 and -- you know, it's 15:46:15

                                                       Page 181

1   a big long file, and the only functionality that it

2   shares is this little function here, and it is very much

3   in the interest of the users of the new sort that it

4   behave exactly like the old sort. You want it to throw

5   exactly the same exception. You want it to actually emit   15:46:47

6   the same prose. You want that text to be the same.

7   So, you know, it's the one where it makes

8   sense to do it. Everything else derives from Tim Peters'

9   implementation. And, you know, here is a little piece of

10   the interface that is specific to Java that doesn't exist   15:47:12

11   in C.

12   MR. JACOBS: Let me ask you to look at

13   something I prepared and see if you quarrel with it.

14   (Exhibit 211 was marked for identification.)

15   Q.   BY MR. JACOBS: 211 is a top over bottom of   15:47:42

16   the arrays.java code we were looking at from the 2004 Sun

17   copyright date -- printout of arrays.java. And the

18   TimSort.java code we were just looking at, which is in

19   Android and which is, in particular, the RangeCheck

20   function in both cases.   15:48:06

21   Do you see that?

22   A.   Uh-huh.

23   Q.   Are they identical?

24   A.   No.

25   Q.   What are the differences?   15:48:12

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 1    design there, and I know it's something really close to

 2    your heart, something you've been working a lot on.  So

 3    why is it so important?  Why are clean APIs so important

 4    and what is your philosophy behind creating?"

 5              And he was right about that.  APIs are          17:25:51

 6    something that's close to your heart; right?

 7         A.   Uh-huh.

 8         Q.   And you went through in that talk some of the

 9    things you went through in your presentation earlier,

10    such as amplify the power of programmers?                 17:26:00

11         A.   Uh-huh.

12         Q.   That's a "yes"?

13         A.   Yes.

14         Q.   "We don't have to waste time, you know,

15    reinventing the wheel.  We can devote our limited         17:26:07

16    resources to actually solving the problems that we have

17    to solve."

18              You said that in that interview; correct?

19         A.   I did.

20         Q.   And then you talked about bad APIs and how      17:26:17

21    they can be an unending source of pain and --

22         A.   Quick question for you, by the way.  I don't

23    have a copy of this thing in front of me so I find it a

24    little harder to say yes when I can't see the transcript.

25              MR. JACOBS:  This is a copy we prepared         17:26:31
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 1    (indicating) from the video.

 2              THE WITNESS:   Thank you.

 3         Q.   BY MR. JACOBS:   So I'm on page 5 of this.

 4         A.   Okay.   All right.   Continue.   Reinventing the

 5    wheel?                                          17:26:54

 6         Q.   Yes.   And so I want to focus you on the

 7    middle of page 7 and just confirm that you said this.

 8    You talk on the bottom of page 6 about the importance of

 9    names?

10         A.   Uh-huh.                              17:27:08

11         Q.   And then you say:   "It's written once and

12    read and maintained for years so you want to make it easy

13    to read."

14              This is the easy-to-read point that you were

15    getting at; right?                            17:27:18

16         A.   Yep.

17         Q.   "It contains a grammar for the new integer

18    literals which allow you to separate groups with

19    underscores."

20              What are you referring to there?     17:27:27

21         A.   This would be the language changes in Java 7.

22         Q.   And you said:   "I pointed out that unless we

23    change the names of these non-terminals, the grammar is

24    just going to confuse people."

25              Do you see that?                     17:27:45
```

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1   A.   Uh-huh.

2   Q.   And Jeremy says: "Right."

3   And then you said: "Yes, you know, generally

4   speaking, these aesthetic matters are not just being

5   prissy. They have real dividends if you get them right   17:27:49

6   in terms of, you know, productivity on down the line. If

7   you get them wrong, there is real losses in terms of bugs

8   caused by misunderstandings."

9   Do you see that?

10   A.   Yep.   17:28:00

11   Q.   And you believe that to be true; correct?

12   A.   Yes, for APIs; probably not for non-terminal

13   symbols in grammar. Perhaps I was just being prissy that

14   day.

15   Q.   But in general, for application programming   17:28:10

16   interfaces --

17   A.   Yes.

18   Q.   -- you believe these aesthetic matters are

19   not just being prissy; they have real dividends?

20   A.   Absolutely.   17:28:19

21   Q.   Just to tie down a few tent flaps here, you

22   had this email exchange with Bob Lee, which was

23   exhibit --

24   A.   220.

25   Q.   Thank you. Did you talk with anyone else   17:28:38

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1   about the Oracle lawsuit, other than Mr. Hwang?

2   A.   I probably talked to my wife about it.

3   Q.   I won't ask you about that.

4   A.   Okay. And I talked on lists where Mr. Hwang

5   was one participant and there were other participants.   17:29:03

6   Q.   What lists? What lists are those?

7   A.   I recall shortly after the lawsuit, we had to

8   decide whether it was possible for us to appear at

9   JavaOne or not, and the lawsuit was discussed in that

10   context.   17:29:29

11   Q.   The -- what's the name of that list?

12   A.   It doesn't have a name. It was ad hoc. It

13   was just a number of employees.

14   Q.   Were you given instructions at any time about

15   how to refer to the Java aspects of Android?   17:29:45

16   MR. PURCELL: And Mr. Bloch, I'd like to

17   caution you not to reveal anything that you might have

18   been instructed to do by counsel. So to the extent that

19   the answer is "yes" with respect to people other than

20   counsel, you can say "yes."   17:30:03

21   THE WITNESS: Okay. The answer is not that I

22   recall.

23   Q.   BY MR. JACOBS: Did you at some point

24   understand that Java was a "J word," that Java was

25   referred to as "the J word" on the Android team?   17:30:20

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 1    STATE OF CALIFORNIA      ) ss:
 2    COUNTY OF MARIN          )
 3
 4              I, LESLIE ROCKWOOD, CSR No. 3462, do hereby
 5    certify:
 6              That the foregoing deposition testimony was
 7    taken before me at the time and place therein set forth
 8    and at which time the witness was administered the oath;
 9              That testimony of the witness and all
10    objections made by counsel at the time of the examination
11    were recorded stenographically by me, and were thereafter
12    transcribed under my direction and supervision, and that
13    the foregoing pages contain a full, true and accurate
14    record of all proceedings and testimony to the best of my
15    skill and ability.
16              I further certify that I am neither counsel
17    for any party to said action, nor am I related to any
18    party to said action, nor am I in any way interested in
19    the outcome thereof.
20              IN WITNESS WHEREOF, I have subscribed my name
21    this 13th day of July, 2011.
22
23
24
25              LESLIE ROCKWOOD, CSR. NO. 3462
```
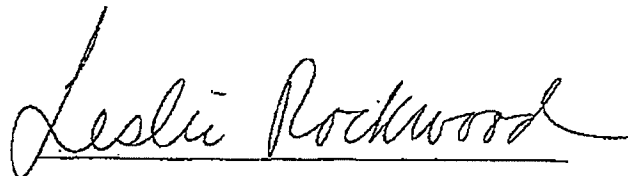
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